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THE SOVIET STRATEGIC AIR AND MISSILE THREAT

- I. As a matter of priority concern to US security, intelligence community has recently completed new estimates on this general subject.
- A. By "strategic threat" we mean Soviet capabilities for nuclear attack on:
1. Nuclear delivery forces, population, and industrial centers in the US.
 2. US and Allied retaliatory forces at sea and in overseas areas.
- B. These Soviet capabilities undergoing major transition.
1. Now rest primarily in long and medium range bombers with nuclear bombs, some with air-to-surface missiles.
 2. Bomber force probably now supplemented by ground-launched ballistic missiles and missile-launching submarines.
 3. Within next few years, ballistic missiles will become main element in Soviet strategic threat.
- II. Past year marked by emergence of new Soviet capabilities with ballistic missiles.

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Graphic 1.

- A. ICBM test-firing program proceeded in orderly manner — while evidence still inadequate to judge precise timing, believe that for planning purposes should consider that by 1 January 1960, USSR had initial operational capability with a few (say, 10) series produced ICBMs.
1. Soviet ICBM probably capable of carrying 6,000 pound nuclear warhead — subject to variation with nosecone configuration and distance it must travel.
 2. CEP: under operational conditions no greater than 5 n.m. initially and may be between 3 and 5 n.m. Improvement to 3 n.m. in 1963 and 2 n.m. in 1966 considered feasible.
 3. Reliability from time ICBM placed on launcher to detonation in vicinity of targets: about 50 percent initially, improvable to 65-70 percent in 1963.
 4. Air Force intelligence believes Soviet ICBM characteristics will be considerably better than this (1960: CEP 3 n.m., reliability about 65 percent; 1963: CEP 2 n.m., reliability about 80 percent).
- B. For delivery of nuclear warheads against land targets at medium ranges, USSR has had 700 n.m. ballistic missiles available for the past few years, and we believe 1,100 n.m. missiles became operational in late 1958 or early 1959.

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1. Estimate that both types are in series production.
 2. Believe troops have trained with both, and have inconclusive evidence of deployment of 700 n.m. missile units.
- C. A few conventionally-powered Soviet submarines now evaluated as probably capable of launching ballistic missiles with nuclear warheads, though not from a submerged position.
1. One type of modified long-range submarine can probably carry two missiles of 200 n.m. or possibly 350 n.m. range.
 2. A newly-constructed class which was first identified in 1959 may carry about 5 missiles of 350 n.m. range.
 3. Based on requirements and technical capabilities, estimate that in 1961-1963 USSR will first achieve a weapon system combining a nuclear-powered submarine with a 500-1,000 n.m. ballistic missile, capable of launching from submerged position.

III. Jet medium and heavy bomber strength of Soviet Long Range Aviation remained virtually constant over past year.

- A. Long Range Aviation now has about 1,100 BADGER jet medium bombers (B-47 type) and about 125 BISON jet (B-52 type) and BEAR turboprop heavy bombers.
1. BEAR production ceased some time ago, BADGER production ceased in about mid-1959, BISON production continues at a low rate (one to two a month in fall of 1959).

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2. Obsolescent B-29 piston medium bombers (B-29 type) retired rapidly in the past year -- probably now completely phased out of Long Range Aviation units.

Graphic 2.

B. Long Range Aviation remains best suited to operations against targets closer in than the US -- for example in Europe.

1. Majority of bombers are BADGERS capable of reaching most US targets only on one-way missions.
2. From Arctic bases, refuelled BISONs could reach US targets on two-way missions -- BEARs could do so without refuelling.

C. There are also several hundred BADGERS in Naval and Tactical Aviation, the former widely equipped with subsonic, 55 n.m. antishipping missiles.

D. In about 1961 USSR will probably have operational a supersonic air-launched missile of at least 350 n.m. range, adaptable for use against land targets or ships at sea.

IV. Soviet rulers probably regard present forces as capable of inflicting appalling damage on US and Allied concentrations of population and industry, but as incapable of preventing, by military action, the nuclear devastation of the USSR.

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- A. Because of US early warning and alert capabilities, Soviet rulers could not expect their bombers to reach targets in time to prevent large-scale retaliation.
 - B. But Soviets probably believe present bomber force and emerging missile strength already constitutes powerful deterrent against US nuclear attack.
 - C. Will seek to improve their deterrent and if possibly to change the US-Soviet power relationship to their advantage.
- V. Future growth of Soviet intercontinental striking capabilities will be primarily a function of development, production, and deployment of ICBMs.
- A. ICBM gives USSR best prospect of being able to deliver heavy weight of attack in time to prevent launching or reduce weight of US retaliatory attack.
 - B. Soviet planners will also consider that any substantial ICBM force will have important political and psychological effects, increasing with size of the force.
- VI. In absence of evidence on Soviet plans and programs, intelligence community has analyzed the ICBM force goals the Soviets might establish over the next few years.

- A. Calculations were made using intelligence estimates of Soviet ICBM characteristics -- nuclear payload, accuracy, reliability, in-commission rate -- and other data from appropriate government agencies:
1. US plans and programs for retaliatory forces.
 2. Nuclear weapons effects data.
 3. Standard probability formulas.
- B. Object of calculations was to derive theoretical Soviet requirements for ICBMs on launcher in each succeeding year:
1. To give USSR high assurance of inflicting severe damage on all US retaliatory bases beyond the range of Soviet 1,100 n.m. missiles.
 2. To give USSR certain lesser capabilities which would still be strategically significant.
- C. Such calculations must be interpreted with caution.
1. They deal only with Soviet requirements for ICBMs on launcher in the USSR -- do not constitute a net estimate of what would actually happen in the event of war.
 2. They include only those US targets suitable for ICBM attack (i.e., fixed installations) and exclude such US forces as airborne bombers and ships at sea.

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3. They assume that Soviet ICBM force will have a maximum initial salvo capability (to circumvent planned fast reaction times of US forces) and a precision of timing which is improbable in a complex operation in real life.
4. They are especially sensitive to errors in our estimate of Soviet ICBM accuracy and reliability and to changes in US plans and programs.
5. Nevertheless, believe that if the Soviets have made such calculations, the numbers arrived at would be on the same order as our calculations indicate.

D. We then examined economic implications of Soviet ICBM programs which would meet various theoretical requirements.

1. Analyzed physical and economic effort needed to produce sufficient missiles, build launching facilities, train units, and establish logistic support.
2. Weighed potential military, political, and psychological gains to USSR against possible economic sacrifices required.

VII. Analysis shows that in 1961 the USSR would have its most favorable opportunity, through rapid buildup in ICBMs, to gain decided military, political, and psychological advantage over the US.

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- A. After about that time, planned increase in semihardened and hardened US ICBM sites would result in steep increase in Soviet ICBM requirements.
- B. If Soviets achieved 400-500 ICBMs on launcher in mid-1961, USSR could attain:
 - 1. Very high assurance of being able to inflict severe damage on unhardened US retaliatory bases, including bombers on the ground.
 - 2. Considerably less assurance of severely damaging such bases plus hardened retaliatory bases.
- C. Soviets would probably not regard this as "decisive military superiority" -- would still have to expect retaliation from:
 - 1. Bombers on airborne alert.
 - 2. Semihardened and hardened ICBM sites.
 - 3. Carriers and missile-launching submarines at sea.
- D. Soviets could achieve 400-500 ICBMs on launcher in mid-1961 only through a "crash" production and deployment program.
 - 1. No indication that such a program now underway.
 - 2. Believe Soviet rulers would not make such a heavy investment in a program unlikely to be decisive.

VIII. Present indications are that Soviet ICBM program, while not a "crash" program, is designed to provide a substantial ICBM capability at an early date.

A. Goal is probably a force as large as they think necessary for substantial deterrent and pre-emptive attack capability.

1. This would be consistent with Soviet military doctrine, which describes pre-emptive attack as a strategy of seizing initiative from an enemy who is himself preparing imminently to attack.
2. Also consistent with present deliberate and orderly tempo of Soviet ICBM test firings.
3. And with Soviet policy of maintaining balance among various types of military forces.

B. Conclusion of USIB is that present Soviet ICBM program would provide some 140-200 ICBMs on launcher in mid-1961.

1. Such a program could be undertaken, along with other military programs, without appreciably hindering present Soviet plans for industry and construction.
2. Even to have 140 ICBMs on launcher in mid-1961 would require a vigorous program -- to have 200 at that time would introduce considerably greater difficulties.
3. Some difference of view in USIB within the 140-200 range -- Army and Navy members favor 140 -- State and Joint Staff members favor high side -- Air member also favors high side, but should be noted that he estimates considerably better performance for Soviet ICBM than does majority.

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- C. Course of ICBM program beyond 1961 likely to be affected by changing technical capabilities in both USSR and US, and by developments in international situation.
1. Any projection must be reviewed in light of these factors and of evidence on actual Soviet ICBM program.
 2. Our present estimate of Soviet ICBMs on launcher is some 250-350 in mid-1962 and some 350-450 in mid-1963.

D. Through such a buildup, USSR would progressively acquire the following theoretical capabilities with ICBMs:

1. By late 1960, high assurance of being able to detonate a high-yield nuclear warhead over each of the 25 principal US metropolitan areas.
2. Between late 1961 and mid-1962, very high assurance of being able to inflict severe damage on SAC bomber bases, including bombers on the ground.
3. Between about the middle and end of 1962, very high assurance against such bases plus other unhardened retaliatory bases.

Graphic 3.

E. Soviet planners would probably regard such an ICBM buildup as giving them an increasingly substantial deterrent and pre-emptive attack capability.

F. Air Force intelligence disagrees with much of the foregoing analysis.

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1. Believes Soviet leaders are attemptive to achieve capability for decision over the US through political exploitation of ICBM force or actual launching if necessary.
2. Assuming considerably better ICBM performance, believes Soviets would have higher assurance against US retaliatory forces with comparable numbers of missiles.
3. Believes Soviets will continue high priority buildup over the next five years, aiming at 640 ICBMs on launcher in mid-1963 and 880 in mid-1964.

II. USSR should have no serious difficulty in producing and deploying sufficient medium range missiles to attack US and Allied nuclear delivery bases overseas.

- A. We estimate they will have total of about 250 700 n.m. and 1,100 n.m. missiles on launcher from 1961 through 1964.
- B. They would probably build toward considerably larger stockpile of these missiles, for use subsequent to an initial blow.
- C. Even from within USSR, these missiles could deliver nuclear warheads against large majority of critical Western targets in Europe and Asia.

Graphic 4.

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I. Total Soviet bomber strength will probably remain relatively constant for next year or two, and decline thereafter.

A. Bombers will continue to be useful even after formidable missile capabilities acquired.

1. Indispensable for specialized missions such as attack on targets of uncertain location.

2. Capable of searching out and attacking carriers at sea.

B. More advanced bombers may appear in the next few years, but current models will continue to form backbone of Soviet bomber force.

C. Probable Soviet advances in air-to-surface missiles will give bombers a stand-off capability against land targets and improve their performance against shipping.

XI. USSR's missile submarines could launch nuclear warheads against selected targets in the US, although Soviet planning apparently does not accord them the main weight of an attack.

Graphic 5.

A. Maximum missile range estimated at 200-350 n.m. at present, will probably be 500-1,000 n.m. beginning in 1961-1963.

B. Present strength, estimated at about 10 conventionally-powered missile subs, will probably double by 1961-1962.

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C. Nuclear-powered missile subs will constitute a considerably greater threat.

1. Assuming an active program which brings this type into service in 1961, believe USSR will have about 14 in operation in 1964.

2. With proper operating procedures and alternate crews, perhaps half this number could be deployed off US coasts at all times.

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SUGGESTED GRAPHICS

- Graphic 1. OSI chart on firings at Tyura Tam (T. S.)
- Graphic 2. Maximum range capabilities of BADGER and HUSON against the US (S.)
- Graphic 3. Estimated Soviet ICBM progress versus selected on-launched requirements (T. S.)
- Graphic 4. Maximum range capabilities of Soviet 700 and 1,200 n.m. ballistic missiles against Europe and Asia (S.)
- Graphic 5. Maximum range capabilities of Soviet sub-launched missiles against the US (S.)